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Dr. Burton W. Adkinson
Head, Office of Science Information Service
National Science Foundation
Washington, D.C.

Dear Burt:

The following information which has come to our attention may be of interest to you:

At VINITI* they have a staff of 15 hundred to 22 hundred. However, it is hard to believe there are more than 12 hundred in the main buildings. They use "outside" editors for 25 per cent of the material handled (this does not include abstractors) and the total could well be 22 hundred. Mechanization will not reduce the staff but merely handle new and increased services.

In the Chemical Editorial Department there are:

240 - total, including: 25 working on express information services,
16 working on subject and formula indexing,
8 working on authors and patents.

The editorial staff is divided into seven sections:

1. Physics
2. Analytical
3. Organic
4. Inorganic Technology
5. Organic Technology
6. High Molecular Technology
7. Biological Chemistry.

Included in the staff are 40 members with doctorates, of whom 14 are heads of departments or sections.

There are 15 hundred abstractors used in chemistry.

Salaries for chemists start at 1350 rubles per month and can increase to 35 hundred by the end of the third year.

* Vsesoyuznyy Institut Nauchnoy i Tekhnicheskoy Informatsii
(All Union Institute of Scientific and Technical Information)

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They have trouble inducing chemists to continue working in VINITI. They hope to improve this situation by organizing a program of study in the field of chemical literature and documentation. They now have the promise of several large universities to graduate one hundred chemists per year in chemical nomenclature.

All the staff is encouraged to work in laboratories one day per week and VINITI helps in finding such work for the members. They may work several days in one week and none during others. The average is about 38 hours per week at VINITI.

Also, many chemists work part time at VINITI including such well known men as Professor I.V. Torgov.

The science of literature is young and their chemists do not fully understand the promising careers offered. They must be made to recognize the importance of the work by higher pay and recognition as equivalent to other academic work.

In 1959 they published 85 thousand abstracts in chemistry and 35 thousand in biochemistry. The costs of the chemical editorial department was given as:

3,000,000 rubles for editorial work
4,000,000 rubles for outside abstracting
1,500,000 rubles for procurement services, bibliographic work
and administration.

8,500,000

Income from sales merely covers printing. The Academy of Science appropriates the balance.

Abstracts on physics or nuclear work are submitted to the chemical editorial department where they are accepted or rejected.

New facilities, including large machine research laboratories, are to be added in 1960 but there is no new construction in the area to confirm this.

VINITI receives 12 thousand scientific journals plus three thousand special Soviet publications. English constitutes 35 per cent of the literature. The literature originates from 95 countries and covers 65 languages ranging from the most ancient, Arabic, to the most modern, interlingua. About 700 thousand articles were published in 1959 in the 13 sections of Referativnyi Zhurnal.

The coverage seemed complete except for some Japanese and US journals. For example, no publications from Columbia University or TAPPI. Their efforts to subscribe to the latter have failed and they regard it as "a manifestation of the cold war" but are hopeful this will change soon.

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They have 11 thousand subscribers to chemical literature made up of:

5,500 - to Referat Zhur, Khim
3,000 - to sections of Khim
2,500 - to Referat Zhur, Khim Biol Khim.

About 25 per cent of the subscribers to sections want more than one. It is expected that the subscriptions to sections will make up a large share of the total in the future.

For each publication used they decide whether to tear it apart for distribution to abstractors, subscribe to more than one copy, or photostat the articles.

VINITI has about 15 hundred exchanges with other countries of which they consider the one with the American Chemical Society as the best. Chemical Abstracts exchanges 25 thousand to 30 thousand pages of verifax or photocopies. VINITI would like to develop exchanges for non-periodicals not covered in their catalogue and also trade publications. The following is a list of U.S. publications desired:

1. Air University Quarterly Review
2. Allis-Chalmers Electrical Review
3. American Automobile
4. American Machinist
5. Applied Hydraulics
6. Automatic Control
7. Automatic Machining
8. Automotive Industries
9. Boeing Magazine
10. Chemical Engineering
11. Coal Age
12. Coal-Heat
13. Coal Mining
14. Combustion
15. Concrete
16. Construction Equipment
17. Control Engineering
18. Cotton Gin and Oil Mill Press
19. Diesel Power
20. Diesel Progress
21. Distribution Age
22. Dissertation Abstracts
23. Driller
24. Drilling
25. Electric Light and Power

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26. Electrical Communication
27. Electrical Construction and Maintenance
28. Electrical Manufacturing
29. Electronic Industries and Tele-Tech
30. Electrified Industry
31. Engineering and Mining Journal
32. Excavating Engineer
33. Explosives Engineer
34. Food Processing
35. Foundry
36. Fuel Oil and Oil Heat
37. Gas
38. Gas Heat
39. General Electric Review
40. General Motors Engineering Journal
41. Heating Piping and Air Conditioning
42. Industrial Heating
43. Industrial Science and Engineering
44. Industry and Welding
45. Instrumentation
46. The Iron Age
47. Journal of International College of Surgeons
48. Journal of Metals
49. Journal of the Patent Office Society
50. Journal of Petroleum Technology
51. Light Metal Age
52. Machine Design
53. Machine and Tool Blue Book
54. Machinery
55. Management Review
56. Materials Handling Engineers
57. Materials in Design Engineering
58. Meet
59. Metal Finishing
60. Metal Products Manufacturing
61. Metal Progress
62. Mining Congress Journal
63. Mining Engineering
64. Modern Plastics
65. Modern Railroads
66. Nucleonics
67. Oil and Gas Equipment
68. Pacific Factory
69. Pacific Road Builder and Engineering Review
70. Petroleum Engineer
71. Petroleum Equipment

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72. Photographic Science Engineering
73. Pipe Line Industry
74. Pit and Quarry
75. Plastics World
76. Power
77. Precision Metal Moulding
78. Production
79. Radio-Electronics
80. Speed Age
81. Steel, The Weekly Magazine of Metalworking
82. Tooling Production
83. Transmission and Distribution
84. Welding Engineer
85. Western Aviation
86. Western Machinery and Steel World
87. Westinghouse Engineer
88. Wire and Wire Products
89. World Oil
90. World Ports

According to A. Mezmayanov, they have no interest in publishing English-language abstracts in Soviet publications. They have had two offers from U.S. firms to translate Referat Zhur into English. This had been discussed at the academy and permission to translate was refused as they have no interest at present in sending out translated abstracts. However, the matter might be discussed again at some future date.

Index work is their weakest spot. They are aware of this and are planning an overtime program to bring it up to date. V.V. Serpinskiy feels they are novices in this work, but professionals in abstracting. He had a difficult time convincing the director that it required six times more staff to do chemical work. However, they expect to catch up in 1960. The present status is:

1955-56 index proof being read. Will publish in 1960.
1957-58 will be issued in mid-1960
1959 will be issued in late 1960

The first volume of their reaction index will be published early in 1960. This service is based on the assumption that chemists are interested in reactions as well as chemical substances. This was proposed by G. E. Vladut, a Rumanian chemist, as early as 1955.

A whole card is prepared for each reaction. The molecular linkage molecule is marked where the chain has been broken and change has occurred. Additional reactions are added throughout the year based on the reacting part of the molecule.

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No plans have been made for collective indexes. When plans for the Decennial are made, they will have to start with 1957 as 1953-54 and 1955-56 are not of proper quality and must be done over.

Nomenclature has been a problem. Until 1941, Soviet chemistry developed under German influence. Since then, the Geneva nomenclature has been followed more than the U. S. They hope to work out a satisfactory system soon that will not differ greatly from the international system. However, there are many older chemists who do not favor the international. Serpinskiy believes that an international system, even of poorer quality, is better than an independent system.

They claim to have no translation problems with 60 per cent of their work. The most troublesome is Japanese.

Over two thousand characters are used in printing. Three hundred are handled by linotype machines and the rest hand set. Chinese and Japanese characters are being printed but this is a luxury - they must give up soon.

Soviet patents are not being completely covered but this is being increased. In the past, the Soviet patent office held back patents from Referat Zhur but they were forced to release them when they became available to Referat Zhur from the U.S.

Ekspress Informatsiya is guided closely by S. M. Lisitakin. It works under the editorial department rather than bibliography. It formerly was independent but the switch will permit one abstractor to handle both abstracts.

They publish 48 journals of specialized and applied information on such subjects as heat engineering, measuring devices, food industry, etc. The number of journals is growing rapidly. Some journals are published once per month, others twice per month, at 10 day intervals, or weekly, depending on the need. The raw material is from 21 hundred foreign journals of which 50 per cent are in English, mostly from the U.S.

Express information contains neither short translations or long abstracts, but long, detailed reviews containing all essential data necessary to obviate any necessity of referring to the original.

Publications have considerable greater circulation than Referat Zhur. They find warm acceptance in the USSR but are also used in other countries, especially the U.K. where they have received permission to translate them.

Serpinskiy differentiates express information from Referat as being only selected and timely information.

Distribution is handled by the printing industry or the All-Union distribution organization.

Materials to be published is selected by industry in personnel conference and by correspondence. Articles to be considered are photo copies and distributed to technical specialists in industry who know languages.

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They expect to speed up express information by several weeks by coordinating this work with the editorial department of Referat. They also have branch institutes, certain government departments and industry who have important information services which could be added to VINITI to broaden the coverage, including Soviet literature. A. I. Mikhaylov believes that express service is not deep or thorough enough to be very useful.

Express Service has a question and answer service handled by its bibliographical section and handled by a special branch in VINITI. Here industrial private or university users can get photostats and bibliographical data free of charge. Also, special self-paying translation service is offered.

In 1960 there will be three principal sources of express information:

1. Cards of all 700 thousand abstracts,
2. Express information publications,
3. Referat for retrospective searching.

They estimate there will be five million cards by 1965.

Also, sometime in 1960 they plan to publish a world list of periodicals used in Referat. As soon as the editorial board decides what is to be published, they will begin printing in sections. This will cover 13 to 14 thousand titles.

No mention has been made of plans for a directory of scientists of the USSR.

They plan to publish soon a catalogue of "Trivial and Trade Names" of 40 thousand compounds. Other handbooks, catalogues and specialized indexes will be published as supplements to existing types of indexes when "information-logical" machines are developed.

They expect to build a machine of long range memory, built in capacitance and using printed circuits on 8x10 sheets for card imprints. Recording will be done the same as for punched cards. Chemical nomenclature will be coded by a system developed at VINITI. This code is much longer but the capacity of the machine is so great it will not be a serious drawback.

They are struggling with many problems in their machine work. One is recording the properties of every substance, permitting searches to separate all compounds containing a specific element. They had tried to do this on the same tape but found that searching the whole capacity of memory is not practical.

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They feel they must not record the whole structure of compounds but rather a fraction. Only a portion of chemical structures, for example anti-malarial compounds, causes the action. The task is to find the compounds which cause the action. Part of the machine program will be to search the tape for the fraction, an immeasurably simpler job than the whole of Dyson's code.

In addition to information tasks, they must solve logical problems. An example would be correlation between properties such as difference in structure, or the optical structure of the same compound.

Special purpose computers are being developed in Moscow for translation purposes and they are building a laboratory for this purpose. No details are known.

Trials have not been completed on the author index. According to Serpinskiy there have been "great claims made about their electronic equipment but they have produced no results or shown any accomplishments to date".

There is more autonomy among editors in their internal operations than such a centralized operation would suggest. Heated discussions regarding editorial policy are just as common as in the U.S., probably more than we have among operations not under the same roof.

There is a stronger academic approach than industrial in both VINITI and the Mendeleev Chemical Society.

The machine work on information storage and retrieval does not seem to be as far advanced as in the U.S., perhaps by four to five years. They seem at sea about problems of structure and nomenclature. Also, they are baffled by fraction of structures. Their chief hope for solving their problems lies with Vladut. But he may lack the engineering skill needed to translate the work into practical usage.

But they seem to have unlimited financial support and adequate personnel. Their reaction index and coding of formula cards are improvements of our work in the U. S. They possess an advantage in the opportunity for the staff to work in research laboratories. They could well surpass our work in the U. S. in a few years.

A. I. Mikhaylov is a direct, bold, aggressive and commanding man. He has imagination, an appreciation of the Institut's work and a warm personality.

S. M. Lisitskin is a dynamic production man but not a scholar. He seems well informed on the oil industry in Grinca and East German industry. He does not seem to have Mikhaylov's confidence or respect.

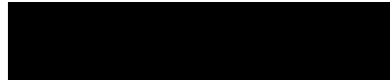
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A. A. Fomls is a personable, academic type.

A.D. Cherny, head of the Scientific Methodology of Information and Documentation, is Mikhaylov's fair haired boy and will progress in the organization.

Sincerely,

FOIAb3b

A solid black rectangular box used to redact the signature of the Deputy Assistant Director.

Deputy Assistant Director